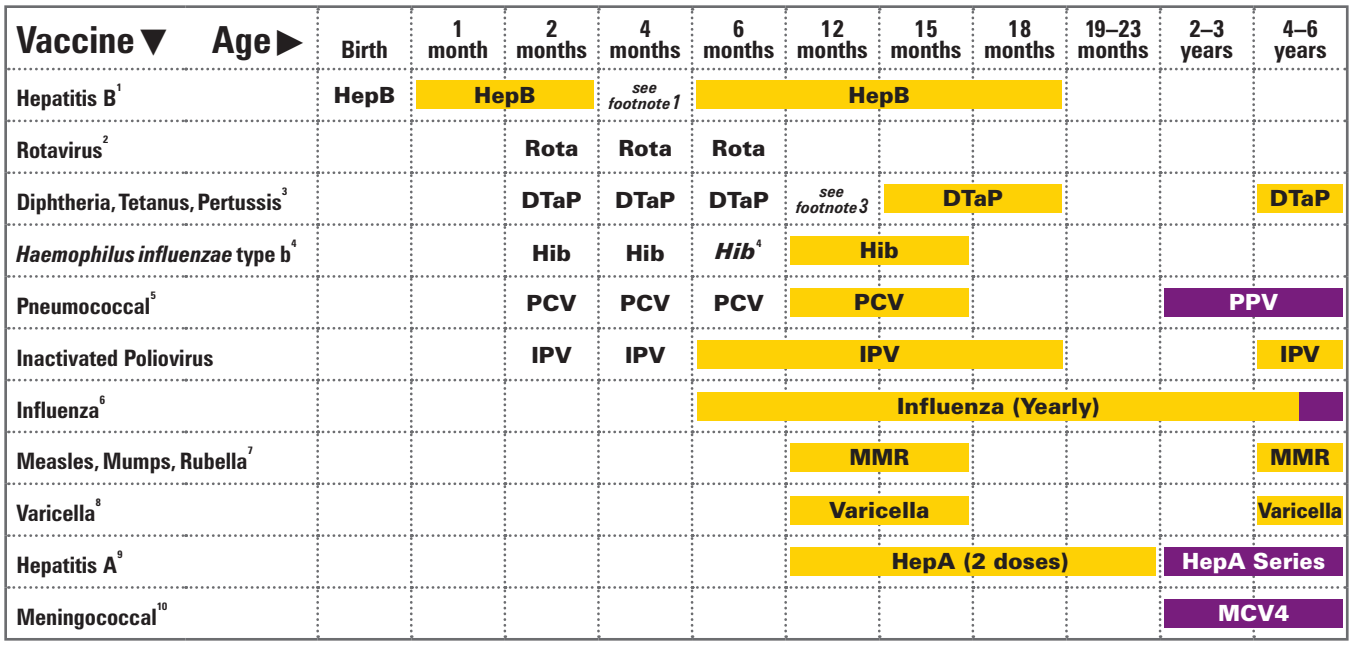
Recommended Immunization Schedule for Persons Aged 0–6 Years—UNITED STATES • 2008

For those who fall behind or start late, see the catch-up schedule



This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2007, for children aged 0 through 6 years. Additional information is available at **www.cdc.gov/vaccines/recs/schedules**. Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for **high-risk conditions: http://www.cdc.gov/vaccines/pubs/ACIP-list.htm**. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at **www.vaers.hhs.gov** or by telephone, **800-822-7967**.

1. Hepatitis B vaccine (HepB). *(Minimum age: birth)*

At birth:

- Administer monovalent HepB to all newborns prior to hospital discharge.
- If mother is hepatitis B surface antigen (HBsAg) positive, administer HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
- If mother's HBsAg status is unknown, administer HepB within 12 hours of birth. Determine the HBsAg status as soon as possible and if HBsAg positive, administer HBIG (no later than age 1 week).
- If mother is HBsAg negative, the birth dose can be delayed, in rare cases, with a provider's order and a copy of the mother's negative HBsAg laboratory report in the infant's medical record.

After the birth dose:

- The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be administered at age 1–2 months. The final dose should be administered no earlier than age 24 weeks. Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg after completion of at least 3 doses of a licensed HepB series, at age 9–18 months (generally at the next well-child visit).

4-month dose:

- It is permissible to administer 4 doses of HepB when combination vaccines are administered after the birth dose. If monovalent HepB is used for doses after the birth dose, a dose at age 4 months is not needed.

2. Rotavirus vaccine (Rota). *(Minimum age: 6 weeks)*

- Administer the first dose at age 6–12 weeks.
- Do not start the series later than age 12 weeks.
- Administer the final dose in the series by age 32 weeks. Do not administer any dose later than age 32 weeks.
- Data on safety and efficacy outside of these age ranges are insufficient.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). *(Minimum age: 6 weeks)*

- The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose.
- Administer the final dose in the series at age 4–6 years.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib). *(Minimum age: 6 weeks)*

- If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required.
- TriHIBit® (DTaP/Hib) combination products should not be used for primary immunization but can be used as boosters following any Hib vaccine in children age 12 months or older.

5. Pneumococcal vaccine. *(Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPV])*

- Administer one dose of PCV to all healthy children aged 24–59 months having any incomplete schedule.
- Administer PPV to children aged 2 years and older with underlying medical conditions.

6. Influenza vaccine. *(Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])*

- Administer annually to children aged 6–59 months and to all eligible close contacts of children aged 0–59 months.
- Administer annually to children 5 years of age and older with certain risk factors, to other persons (including household members) in close contact with persons in groups at higher risk, and to any child whose parents request vaccination.
- For healthy persons (those who do not have underlying medical conditions that predispose them to influenza complications) ages 2–49 years, either LAIV or TIV may be used.
- Children receiving TIV should receive 0.25 mL if age 6–35 months or 0.5 mL if age 3 years or older.
- Administer 2 doses (separated by 4 weeks or longer) to children younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time last season but only received one dose.

7. Measles, mumps, and rubella vaccine (MMR). *(Minimum age: 12 months)*

- Administer the second dose of MMR at age 4–6 years. MMR may be administered before age 4–6 years, provided 4 weeks or more have elapsed since the first dose.

8. Varicella vaccine. *(Minimum age: 12 months)*

- Administer second dose at age 4–6 years; may be administered 3 months or more after first dose.
- Do not repeat second dose if administered 28 days or more after first dose.

9. Hepatitis A vaccine (HepA). *(Minimum age: 12 months)*

- Administer to all children aged 1 year (i.e., aged 12–23 months). Administer the 2 doses in the series at least 6 months apart.
- Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.
- HepA is recommended for certain other groups of children, including in areas where vaccination programs target older children.

10. Meningococcal vaccine. *(Minimum age: 2 years for meningococcal conjugate vaccine (MCV4) and for meningococcal polysaccharide vaccine (MPSV4))*

- Administer MCV4 to children aged 2–10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups. MPSV4 is also acceptable.
- Administer MCV4 to persons who received MPSV4 3 or more years previously and remain at increased risk for meningococcal disease.

The Recommended Immunization Schedules for Persons Aged 0–18 Years are approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

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Recommended Immunization Schedule for Persons Aged 7–18 Years—UNITED STATES • 2008

For those who fall behind or start late, see the green bars and the catch-up schedule

Vaccine ▼ Age ▶	7–10 years	11–12 years	13–18 years
Diphtheria, Tetanus, Pertussis[1]	*see footnote 1*	Tdap	Tdap
Human Papillomavirus[2]	*see footnote 2*	HPV (3 doses)	HPV Series
Meningococcal[3]	MCV4	MCV4	MCV4
Pneumococcal[4]	PPV		
Influenza[5]	Influenza (Yearly)		
Hepatitis A[6]	HepA Series		
Hepatitis B[7]	HepB Series		
Inactivated Poliovirus[8]	IPV Series		
Measles, Mumps, Rubella[9]	MMR Series		
Varicella[10]	Varicella Series		

Range of recommended ages

Catch-up immunization

Certain high-risk groups

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2007, for children aged 7–18 years. Additional information is available at **www.cdc.gov/vaccines/recs/schedules**. Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for **high risk conditions: http://www.cdc.gov/vaccines/pubs/ACIP-list.htm**. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at **www.vaers.hhs.gov** or by telephone, **800-822-7967**.

1. Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap). *(Minimum age: 10 years for BOOSTRIX® and 11 years for ADACEL™)*
- Administer at age 11–12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoids (Td) booster dose.
- 13–18-year-olds who missed the 11–12 year Tdap or received Td only are encouraged to receive one dose of Tdap 5 years after the last Td/DTaP dose.

2. Human papillomavirus vaccine (HPV). *(Minimum age: 9 years)*
- Administer the first dose of the HPV vaccine series to females at age 11–12 years.
- Administer the second dose 2 months after the first dose and the third dose 6 months after the first dose.
- Administer the HPV vaccine series to females at age 13–18 years if not previously vaccinated.

3. Meningococcal vaccine.
- Administer MCV4 at age 11–12 years and at age 13–18 years if not previously vaccinated. MPSV4 is an acceptable alternative.
- Administer MCV4 to previously unvaccinated college freshmen living in dormitories.
- MCV4 is recommended for children aged 2–10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups.
- Persons who received MPSV4 3 or more years previously and remain at increased risk for meningococcal disease should be vaccinated with MCV4.

4. Pneumococcal polysaccharide vaccine (PPV).
- Administer PPV to certain high-risk groups.

5. Influenza vaccine.
- Administer annually to all close contacts of children aged 0–59 months.
- Administer annually to persons with certain risk factors, health-care workers, and other persons (including household members) in close contact with persons in groups at higher risk.
- Administer 2 doses (separated by 4 weeks or longer) to children younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time last season but only received one dose.
- For healthy nonpregnant persons (those who do not have underlying medical conditions that predispose them to influenza complications) ages 2–49 years, either LAIV or TIV may be used.

6. Hepatitis A vaccine (HepA).
- Administer the 2 doses in the series at least 6 months apart.
- HepA is recommended for certain other groups of children, including in areas where vaccination programs target older children.

7. Hepatitis B vaccine (HepB).
- Administer the 3-dose series to those who were not previously vaccinated.
- A 2-dose series of Recombivax HB® is licensed for children aged 11–15 years.

8. Inactivated poliovirus vaccine (IPV).
- For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if the third dose was administered at age 4 years or older.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.

9. Measles, mumps, and rubella vaccine (MMR).
- If not previously vaccinated, administer 2 doses of MMR during any visit, with 4 or more weeks between the doses.

10. Varicella vaccine.
- Administer 2 doses of varicella vaccine to persons younger than 13 years of age at least 3 months apart. Do not repeat the second dose if administered 28 or more days following the first dose.
- Administer 2 doses of varicella vaccine to persons aged 13 years or older at least 4 weeks apart.

The Recommended Immunization Schedules for Persons Aged 0–18 Years are approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

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Catch-up Immunization Schedule

UNITED STATES • 2008

for Persons Aged 4 Months–18 Years Who Start Late or Who Are More Than 1 Month Behind

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age.

CATCH-UP SCHEDULE FOR PERSONS AGED 4 MONTHS–6 YEARS

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B[1]	Birth	4 weeks	8 weeks (and 16 weeks after first dose)		
Rotavirus[2]	6 wks	4 weeks	4 weeks		
Diphtheria, Tetanus, Pertussis[3]	6 wks	4 weeks	4 weeks	6 months	6 months[3]
Haemophilus influenzae type b[4]	6 wks	4 weeks if first dose administered at younger than 12 months of age 8 weeks (as final dose) if first dose administered at age 12-14 months No further doses needed if first dose administered at 15 months of age or older	4 weeks[4] if current age is younger than 12 months 8 weeks (as final dose)[4] if current age is 12 months or older and second dose administered at younger than 15 months of age No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 months–5 years who received 3 doses before age 12 months	
Pneumococcal[5]	6 wks	4 weeks if first dose administered at younger than 12 months of age 8 weeks (as final dose) if first dose administered at age 12 months or older or current age 24–59 months No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age is younger than 12 months 8 weeks (as final dose) if current age is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 months–5 years who received 3 doses before age 12 months	
Inactivated Poliovirus[6]	6 wks	4 weeks	4 weeks	4 weeks[6]	
Measles, Mumps, Rubella[7]	12 mos	4 weeks			
Varicella[8]	12 mos	3 months			
Hepatitis A[9]	12 mos	6 months			

CATCH-UP SCHEDULE FOR PERSONS AGED 7–18 YEARS

Tetanus, Diphtheria/ Tetanus, Diphtheria, Pertussis[10]	7 yrs[10]	4 weeks	4 weeks if first dose administered at younger than 12 months of age 6 months if first dose administered at age 12 months or older	6 months if first dose administered at younger than 12 months of age	
Human Papillomavirus[11]	9 yrs	4 weeks	12 weeks (and 24 weeks after the first dose)		
Hepatitis A[9]	12 mos	6 months			
Hepatitis B[1]	Birth	4 weeks	8 weeks (and 16 weeks after first dose)		
Inactivated Poliovirus[6]	6 wks	4 weeks	4 weeks	4 weeks[6]	
Measles, Mumps, Rubella[7]	12 mos	4 weeks			
Varicella[8]	12 mos	4 weeks if first dose administered at age 13 years or older 3 months if first dose administered at younger than 13 years of age			

1. Hepatitis B vaccine (HepB).
- Administer the 3-dose series to those who were not previously vaccinated.
- A 2-dose series of Recombivax HB® is licensed for children aged 11–15 years.

2. Rotavirus vaccine (Rota).
- Do not start the series later than age 12 weeks.
- Administer the final dose in the series by age 32 weeks.
- Do not administer a dose later than age 32 weeks.
- Data on safety and efficacy outside of these age ranges are insufficient.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).
- The fifth dose is not necessary if the fourth dose was administered at age 4 years or older.
- DTaP is not indicated for persons aged 7 years or older.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib).
- Vaccine is not generally recommended for children aged 5 years or older.
- If current age is younger than 12 months and the first 2 doses were PRP-OMP (PedvaxHIB® or ComVax® [Merck]), the third (and final) dose should be administered at age 12–15 months and at least 8 weeks after the second dose.
- If first dose was administered at age 7–11 months, administer 2 doses separated by 4 weeks plus a booster at age 12–15 months.

5. Pneumococcal conjugate vaccine (PCV).
- Administer one dose of PCV to all healthy children aged 24–59 months having any incomplete schedule.
- For children with underlying medical conditions, administer 2 doses of PCV at least 8 weeks apart if previously received less than 3 doses, or 1 dose of PCV if previously received 3 doses.

6. Inactivated poliovirus vaccine (IPV).
- For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if third dose was administered at age 4 years or older.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.
- IPV is not routinely recommended for persons aged 18 years and older.

7. Measles, mumps, and rubella vaccine (MMR).
- The second dose of MMR is recommended routinely at age 4–6 years but may be administered earlier if desired.
- If not previously vaccinated, administer 2 doses of MMR during any visit with 4 or more weeks between the doses.

8. Varicella vaccine.
- The second dose of varicella vaccine is recommended routinely at age 4–6 years but may be administered earlier if desired.
- Do not repeat the second dose in persons younger than 13 years of age if administered 28 or more days after the first dose.

9. Hepatitis A vaccine (HepA).
- HepA is recommended for certain groups of children, including in areas where vaccination programs target older children. See *MMWR* 2006;55(No. RR-7):1–23.

10. Tetanus and diphtheria toxoids vaccine (Td) and tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap).
- Tdap should be substituted for a single dose of Td in the primary catch-up series or as a booster if age appropriate; use Td for other doses.
- A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose. A booster (fourth) dose is needed if any of the previous doses were administered at younger than 12 months of age. Refer to ACIP recommendations for further information. See *MMWR* 2006;55(No. RR-3).

11. Human papillomavirus vaccine (HPV).
- Administer the HPV vaccine series to females at age 13–18 years if not previously vaccinated.

Information about reporting reactions after immunization is available online at **http://www.vaers.hhs.gov** or by telephone via the 24-hour national toll-free information line 800-822-7967. Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for immunization, is available from the National Center for Immunization and Respiratory Diseases at **http://www.cdc.gov/vaccines** or telephone, **800-CDC-INFO (800-232-4636)**.

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Hib Vaccine Recommendations for Children Not Up-To-Date

Age at Exam	Previous Vaccination History	Recommended Regimen
7-11 months	0 doses	3 doses given with a 4 week minimum interval between dose 1 and 2; third dose given at least 8 weeks after dose 2, at 12-15 months
	1 dose of HbOC, PRP-T, or PRP-OMP[1]	1 or 2 doses of conjugate vaccine at 7-11 months (depending on age) with a booster dose given at least 8 weeks later, at 12-15 months
	2 doses of HbOC or PRP-T	1 dose of conjugate vaccine at 7-11 months with a booster dose given at least 8 weeks later, at 12-15 months of age
12-14 months	0 doses	2 doses of any conjugate vaccine, with a minimum interval of 8 weeks[2]
	1 dose before 12 months of HbOC, PRP-T, or PRP-OMP[1]	2 additional doses of any conjugate vaccine, with a minimum interval of 8 weeks[2]
	2 doses before 12 months of HbOC, PRP-T, or PRP-OMP[1]	1 dose of any conjugate vaccine[2]
15-59 months	Any incomplete schedule	1 dose of any conjugate vaccine[2]
≥ 60 months	Any incomplete schedule	1 or 2 doses of any conjugate vaccine[3]

[1] HbOC (HibTITER®), PRP-T (ActHIB®), PRP-OMP (PedvaxHIB®).
[2] For children 12-59 months of age with an underlying condition predisposing them to Hib disease (e.g., sickle cell disease, asplenia, HIV infection, AIDS, other immunosuppressive conditions and treatments) who are not immunized or who have received only 1 dose of conjugate vaccine before age 12 months, 2 additional doses of licensed conjugate vaccine (separated by 2 months) are recommended. If they have received 2 doses before age 12 months, only 1 dose is recommended.
[3] Children age ≥60 months with an underlying condition predisposing them to Hib disease (e.g., sickle cell disease, asplenia, HIV infection, AIDS, other immunosuppressive conditions and treatments), who are not fully immunized, should get 1 dose of Hib vaccine. Some experts recommend 2 doses (separated by 1-2 months) for those with HIV infection or IgG2 deficiency.
Note: Those undergoing splenectomy may also benefit from an additional dose given ≥7-10 days prior to the procedure. In addition, some experts recommend a reinforcing dose of Hib vaccine be given to children receiving treatment for malignancy, to be administered 3 months after completion of treatment.

PCV7 Recommendations for Children Not Up-To-Date

Age at Exam	Previous Vaccination History	Recommended Regimen[1]
2-6 months	0 doses	3 doses, 8 weeks apart; fourth dose at 12-15 months
	1 dose	2 doses, 8 weeks apart; fourth dose at 12-15 months
	2 doses	1 dose, 8 weeks after most recent dose; fourth dose at 12-15 months
7-11 months	0 doses	2 doses, 8 weeks apart; third dose at 12-15 months
	1 or 2 doses before age 7 months	1 dose at 7-11 months, with another dose at 12-15 months (≥8 weeks later)
12-23 months	0 doses	2 doses, ≥8 weeks apart
	1 dose before age 12 months	2 doses, ≥8 weeks apart
	1 dose at ≥12 months	1 dose, ≥8 weeks after the most recent dose
	2 or 3 doses before age 12 months	1 dose, ≥8 weeks after the most recent dose
24-59 months	Healthy children[2]:	
	Any incomplete schedule	1 dose, ≥8 weeks after the most recent dose
	High risk[3]:	
	<3 doses	2 doses, ≥8 weeks apart
	3 doses	1 dose, ≥8 weeks after the most recent dose

[1] For children vaccinated at age <1 year, the minimum interval between doses is 4 weeks. Doses administered at ≥ 12 months should be at least 8 weeks apart.
[2] Providers should consider 1 dose for unvaccinated healthy children age 24-59 months, with priority to children age 24-35 months, black children, American Indian or Alaska Native children not otherwise identified as high risk, and children who attend group day care centers.
[3] Those with sickle cell disease, asplenia, chronic heart or lung disease, diabetes, cerebrospinal fluid leak, cochlear implant, HIV or another immunocompromising condition, and American Indian or Alaska Native children in areas with demonstrated risk for invasive pneumococcal disease more than twice the national average (i.e., AK, AZ, NM, and Navajo populations in CO and UT).

Vaccination With PPV23 for High-Risk Children Who Have Received PCV7

Population	Schedule for follow-up with PPV23 for children ≥ 2 years of age	Revaccinate with PPV23?
Healthy Children	None[1]	No
Chronic Illness (including cochlear implant)	1 dose PPV23 at age ≥2 years and ≥8 weeks after the last dose of PCV7	Not recommended
Children with sickle cell disease, or anatomic or functional asplenia; immunocompromised; HIV-infected	1 dose PPV23 at age ≥2 years and ≥8 weeks after the last dose of PCV7	Yes[2]

[1] Providers of Alaska Natives and American Indians may wish to consider whether these patients would benefit by the additional coverage provided by the expanded serotypes in PPV23.
[2] If the patient is age ≤10 years: consider revaccination 3-5 years after previous dose. If the patient is age >10 years: single revaccination ≥5 years after the previous dose.

Immunization Best Practices

1. Assess at every visit.

Review immunization status and administer **all** immunizations due at **all** types of visits (e.g., acute care, follow-up, and well-child).

2. Schedule optimally.

- Hepatitis B: Give first dose at birth. The birth dose can only be delayed if mother is HBsAg-negative and the physician's order and mother's negative HBsAg laboratory report are documented in the infant's medical record.
- Any dose of vaccine not given at the recommended age should be given at any following visit when indicated and feasible.
- Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated.
- Always schedule immunizations prior to the maximum ACIP-recommended age to ensure that children have received all of the recommended antigens by age 24 months.

3. Adhere to correct intervals and ages.

(a) Minimum intervals:
- Do **not** give vaccines before the recommended minimum age or interval for that antigen.
- Decreasing the minimum age or interval between doses may interfere with antibody response and protection.
- Doses administered before the minimum age and/or minimum interval should be considered invalid and should not be included in determining the previous number of doses given.
- If an invalid dose has been given, count from the last (invalid) dose in order to determine when to give the next **valid** dose.

(b) Maximum intervals:
- There are no maximum intervals; it is **not** necessary to restart the series of any vaccine due to extended intervals between doses.

4. Follow only true contraindications.

Children who present with a mild acute illness, with or without fever, should **not** be deferred for vaccination. Follow only true contraindications as outlined by the ACIP.

5. Use Vaccine Information Statements (VIS).

Provide patient, parent, or legal representative with a copy of the VIS with **each** dose of vaccine administered, and answer any questions regarding risks and benefits of vaccines. Many other resources are available to help address questions about vaccine safety (see box below).

6. Give all vaccines due.

There are **no** contraindications to simultaneous administration of any of the recommended childhood vaccines.

7. Document.

- Proper documentation consists of day, month, and year an antigen was given, including the first dose of hepatitis B vaccine (i.e., "at birth" is not acceptable documentation).
- Documentation of chickenpox disease should be included on the immunization record.
- Document in the patient's chart the date a patient moves or goes elsewhere for care (MOGE).
- Document contraindications to vaccines.
- Document parent refusal of vaccines or deferral of any vaccine to a later date.
- Provide the patient or parent/legal guardian with an immunization card documenting the vaccines given and the date the next doses are due.

8. Carry out reminder/recall.

- Identify children who are due or overdue for immunizations (e.g., computer billing system, other electronic tracking systems, tickler system, stickers on charts).
- Send out reminder or recall notices **at least twice a year** (i.e., at 8 and 20 months of age).
- Verify patient's address and telephone number at each encounter; obtain a second contact number for back-up.

9. Develop a systematic approach.

- Formally designate one staff member as an "Immunization Champion" who is responsible for coordinating/monitoring all immunization activities. The "Immunization Champion" keeps up-to-date with the most recent information about immunization, distributes immunization schedules and advisories, and communicates current practices and policies to all staff.
- All providers at a practice should formally agree to adhere to a common immunization schedule (based on ACIP guidelines).
- Post agreed upon common schedule throughout the practice.

10. Follow appropriate procedures for vaccine storage and handling.

- Formally designate one staff member to monitor vaccine storage and handling.
- Consult the MDPH document *Vaccine Management Guidelines* for detailed instructions on proper vaccine storage and handling.
- Maintain up-to-date, written protocols for vaccine storage and handling procedures and share with all staff who handle vaccine.

11. Vaccinate staff.

All personnel who have contact with patients should be appropriately vaccinated.

12. Report adverse events.

Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form can be found on the Internet: http://www.vaers.hhs.gov or by calling 1-800-822-7967.

13. Report cases.

Report suspect cases of vaccine-preventable diseases to your local board of health and to the MDPH Immunization Program, 617-983-6800 or toll free 888-658-2850. More information regarding disease reporting and control measures can be found in the *Guide to Surveillance and Reporting*, available online at http://www.mass.gov/dph.

Adapted from: National Vaccine Advisory Committee. *Standards for Child and Adolescent Immunization Practices.* Pediatrics. 2003;112:958-963.

Resources:

Massachusetts Department of Public Health (MDPH): www.mass.gov/dph, 888-658-2850 or 617-983-6800
National Immunization Information Hotline: 1-800-232-4636 (1-800-CDC-INFO) and 1-800-243-7889 (TTY)
National Immunization Program: www.cdc.gov.vaccines **Immunization Action Coalition**: www.immunize.org
American Academy of Pediatrics: www.aap.org. **Children's Hospital of Philadelphia Vaccine Education Center**: www. chop.edu

Massachusetts School Immunization Requirements 2008*

	Child Care/Preschool[1]	Kindergarten	Grades 1-6	Grades 7-12	College[2]
Hepatitis B[3]	3 doses	3 doses	3 doses	3 doses	3 doses for all health science students and all full-time undergraduate and graduate students
DTaP/DTP/DT/Td[4]	≥4 doses DTaP/DTP	5 doses DTaP/DTP	≥4 doses DTaP/DTP or ≥3 doses Td	4 doses DTaP/DTP or ≥3 doses Td; plus 1 Td booster	1 Td booster within last 10 years
Polio[5]	≥3 doses	4 doses	≥3 doses	≥3 doses	N/A
Hib[6]	1 to 4 doses[6]	N/A	N/A	N/A	N/A
MMR[7]	1 dose	2 doses measles, 1 mumps, 1 rubella	2 doses measles, 1 mumps, 1 rubella	2 doses measles, 1 mumps, 1 rubella	2 doses measles, 1 mumps, 1 rubella
Varicella[8]	1 dose	1 dose	1 dose	<13 years - 1 dose ≥13 years - 2 doses	N/A
Meningococcal[9,10]	N/A	N/A	N/A (see footnote [10])	1 dose for all new full-time residential students (see footnote [9])	1 dose for all new full-time residential students (see footnote [9])

*These requirements also apply to **all** new "enterers." **N/A** means there is no vaccine requirement for the grades indicated.

[1]**Child Care/Preschool:** Minimum requirements by 24 months; younger children should be immunized according to schedule for their age.

[2]**College:** Requirements apply to: 1) all full-time undergraduate and graduate students; 2) all full-time and part-time health science students; and 3) any full-time or part-time student attending any postsecondary institution while on a student or other visa, including foreign students attending or visiting classes as part of a formal academic visitation or exchange program.

[3]**Hepatitis B:** 3 doses are required for child care attendance and entry into preschool, kindergarten-12th grade, and college (full-time undergraduate and graduate students, as well as all full- and part-time undergraduate and graduate health science students). Laboratory proof of immunity is acceptable.

[4]**DTaP/DTP/DT/Td:** ≥4 doses are required for child care attendance and entry into preschool. 5 doses of DTaP/DTP are required for school entry unless the fourth dose is given on or after the 4th birthday. DT is only acceptable when accompanied by a letter stating a medical contraindication to DTaP/DTP. A **single** booster dose of Td is required for all students entering grades 7-12 (Tdap is also acceptable). Please note: Td is not required if it has been <5 years since their last dose of DTaP/DTP/DT.

[5]**Polio:** ≥3 doses are required for child care attendance and entry into preschool. 4 doses are required for school entry, unless the third dose of an all-IPV or all-OPV schedule is given on or after the 4th birthday, in which case only 3 doses are needed. However, if the sequential or a mixed IPV/OPV schedule was used, 4 doses are always required to complete the primary series.

[6]**Hib:** Hib vaccine is required for child care attendance and preschool entry. The number of primary doses is determined by vaccine product and age the series begins.

[7]**MMR:** 1 dose is required for child care attendance and entry into preschool. A second dose of measles vaccine, given at least 4 weeks after the first, is required for entry to all grades K-12, and college. Laboratory proof of immunity is acceptable.

[8]**Varicella:** 1 dose is required for child care attendance and for all students at entry to preschool and kindergarten-12th grade, unless they have a physician-certified reliable history of chickenpox. If the child is ≥13 years of age at first vaccination, 2 doses are required.

A reliable history of chickenpox is defined as: 1) physician interpretation of parent/guardian description of chickenpox; 2) physician diagnosis of chickenpox; or 3) laboratory proof of immunity.

[9]**Meningococcal:** Meningococcal immunization is required for: 1) newly enrolled full-time students attending a secondary school with grades 9-12 (in the case of ungraded classrooms, those with students 13 years or older) who will be **living in a dormitory or comparable congregate living arrangement** licensed or approved by the secondary school; and 2) newly enrolled full-time undergraduate and graduate students in a degree granting program at a postsecondary institution (e.g., colleges) who will be **living in a dormitory or comparable congregate living arrangement** licensed or approved by the postsecondary institution. These institutions are also required to supply all newly enrolled full-time students (or their parent/legal guardian) who will be **living in a dormitory or comparable congregate living arrangement** with the MDPH developed Meningococcal Information and Waiver Form.

All affected students must: 1) receive information about meningococcal disease and vaccine; and 2) provide documentation of receipt of 1 dose of meningococcal polysaccharide vaccine within the last 5 years (or a dose of meningococcal conjugate vaccine at anytime in the past).

As an alternative, affected students or their parent/legal guardian may sign the Meningococcal Information and Waiver Form developed by MDPH to indicate that they read and understood the required information related to the risks of meningococcal disease and: a) elected to decline the vaccine; or b) could not obtain meningococcal vaccine due to a shortage, but wish to receive it.

These requirements apply to **all newly enrolled full-time residential students**, regardless of grade and year of study.

[10]**At residential schools with lower grades:** the requirements apply to residential students in grades pre-K through 8 only if the school combines these grades in the same school or part of a school with students in grades 9-12.